Injury Extra (2005) **36**, 432—433

www.elsevier.com/locate/inext

CASE REPORT

Intrauterine femoral fracture diagnosed at birth Maternal abdominal trauma versus non-accidental injury

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Accepted 6 March 2005

Introduction

Long bone fractures occurring intra-utero in an otherwise normal fetus are extremely rare. They heal without complications, but if undiagnosed at birth they can have most serious consequences, as they can be misdiagnosed as part of a non-accidental injury.

A non-accidental injury will be suspected if callus formation in a long bone is incidentally found in a non-walking baby, particularly if the guardians did not seek medical attention previously.[5]

Case report

A 31-year-old lady in the 36th week of an uncomplicated pregnancy was involved in a low speed (less than 30 mph) frontal collision whilst driving her car. She was wearing a seat belt, but she suffered a direct impact onto her abdomen with the steering wheel, after which, she attended the Accident and Emergency Department. She sustained no external injuries, her blood pressure was 130/60 mm Hg, pulse was regular at 80 beats/min (bpm), respiratory rate was normal at 20 per min, normal capillary refill at less than 2 s and 15/15 Glasgow coma scale. She was referred to the antenatal ward, where a cardiotocogram showed a normal fetal heart rate of 145 bpm, with accelerations but no decelerations. Uterine activity was not felt. She was reassured and discharged home the same day.

Four weeks later she had a baby girl following a normal, atraumatic vaginal delivery. A deep, hard mass was felt on the baby's right thigh at birth. No abnormal movement on the right thigh was present, and the baby did not show signs of distress on examination. The rest of the clinical examination was normal.

X-rays of the right femur showed an almost united fracture of the shaft with abundant callus formation, in an otherwise normal femur (Fig. 1).

Discussion

Intrauterine fetal fractures have previously been reported.[1—4,6,7] These fractures can present in isolation,[3,7] be part of a syndromic presentation[2] or cause intrauterine death.[8] Although fractures in

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1572-3461
doi:10.1016/j.injury.2005.03.010

Figure 1 Plain radiograph of right femur at birth showing callus formation.

utero can be diagnosed prenatally,[1] the diagnosis is commonly made after birth. The case presented highlights the limitations of a routine cardiotocogram to exclude foetal injury following maternal trauma. The differential diagnosis of long bone fracture found at birth or soon after includes, intrauterine fracture, birth trauma, pseudoarthrosis, osteogenesis imperfecta and non-accidental injury. Given the medical and medico-legal implications of these diagnoses, we suggest that a fetal ultrasound scan should be considerer as well as a cardiotocogram, in order to exclude fetal damage after maternal abdominal trauma.

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